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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,711	12/19/2001	Stein A. Lundby	PA020015	3873

23696 7590 04/23/2004

Qualcomm Incorporated  
Patents Department  
5775 Morehouse Drive  
San Diego, CA 92121-1714

EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 04/23/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/029,711

Applicant(s)

LUNDBY, STEIN A.

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 5, 6, 9, 11, 14, 15, 16, 19, 21, 22, 23, 24, and 25 are rejected under 35

U.S.C. 102(e) as being anticipated by Sato et al. (US 2002/0003798).

3. Regarding claims 11 and 24, Sato et al. discloses a method of providing multicast services. Fig. 2 shows a wireless base station 20 that includes a transceiver 21, a multicast information storage unit 22 (a memory element), a network control unit 23 (a processing element), and an information delivery control unit 24. The multicast information storage unit 22 stores the multicast information that the network control unit 23 received through the predetermined network (an apparatus for multi-cast transmissions). See paragraph 0057. Fig. 3 shows a wireless terminal 10 that includes a transceiver 11, an output unit 12, and a control unit 13. The control unit 13 controls the transceiver 11 and the output unit 12, and measures the reception quality of downlink signals received by the transceiver 11. Such reception quality may include a reception level, an interference level, a noise level, an error rate, etc. See paragraph 0059. In the system for rendering multicast services, each wireless terminal 10 uses the control unit 13 to measure reception quality such as a reception level with regard to a free downlink channel that is used by the transceiver 11 for signal reception—each wireless terminal 10 then

notifies the wireless base station 20 of the result of the measurement. See paragraph 0060. The information delivery control unit 24 of the wireless base station 20 takes into account the rate of multicast information received from the network and at least some of the measured results of reception quality received from the wireless terminal 10 that requested the multicast information. Based on this, the information delivery control unit 24 determines how to deliver the requested multicast information—parameters that can be altered include the number of spreading codes, the number of timeslots, the modulation multi-number, the bit rate, etc. (using channel quality information for at least one subscriber to determine the transmission format of the multi-cast service to the group of subscribers). See paragraphs 0062 and 0092. Before sending the multi-cast information, the base station 20 transmits to the wireless terminal 10 the transmission conditions of multicast information corresponding to the requested multicast group. The transmission conditions of multicast information specifies requirements for the transmission of multicast information to the wireless terminal 10, and may indicate a wireless channel a transmission timeslot, the number of modulation levels, a transmission time slot, a processing gain of spreading, and the number of spreading codes, etc. Information about such conditions is necessary for each wireless terminal 10 to receive multicast information from the wireless base station 20 (generating an identifier for a group of subscribers, wherein the identifier is for accessing a multi-cast service...transmitting the identifier on at least one channel). See at least paragraph 0061 and 0075. The multicast information is then sent to the terminals according to the parameters that were decided upon earlier (transmitting the multi-cast service...wherein the multi-cast service is transmitted in accordance with the transmission format determined by the channel quality information). See Fig. 8, and paragraph 0073 for exemplary discussion.

4. Regarding claims 1 and 23, Sato et al. discloses that the timing of the information must also be taken into consideration. Specifically, in order to achieve a substantially equal delivery time from each transmission rate when delivering the same multicast information at different transmission rates, the method includes a step of decreasing a size of the multicast information to be transmitted as the different transferring rates decrease. See at least paragraph 0029. Thus, to account for timing, the base station uses the reception quality parameters to adjust the timing correctly.

5. Regarding claims 4, 9, 14 and 19, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by selecting the channel quality information associated with the worst channel conditions). Also, as discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work.

6. Regarding claims 5, 6, 15 and 16, as mentioned previously, the reception quality measurement can be based on an interference level or on reception level. See paragraph 0059.

7. Regarding claims 21 and 22, as mentioned previously, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by

selecting the channel quality information associated with the worst channel conditions). Also, as discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work. Also, as mentioned previously, the wireless terminal needs the information concerning conditions, like spreading codes, in order to receive the multicast information. It is inherent in a CDMA system that the service is “scrambled” using a code and descrambled by the user with that code in order to read the data. See paragraph 0061.

8. Regarding claim 25, as mentioned previously, Sato et al. discloses that the timing of the information must also be taken into consideration. Specifically, in order to achieve a substantially equal delivery time for each transmission rate when delivering the same multicast information at different transmission rates, the method includes a step of decreasing a size of the multicast information to be transmitted as the different transferring rates decrease. See at least paragraph 0029. Thus, to account for timing, the base station uses the reception quality parameters to adjust the timing correctly. Also, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by selecting the channel quality information associated with the worst channel conditions). Also, as discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work.

*Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2, 3, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in light of the rejections to claims 1 and 11.

11. Regarding claims 2 and 12, Sato et al. does not expressly disclose sending the identifier information of the multicast conditions over a first channel and sending the actual multicast information over a second channel. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to send these two types of information over two different channels. One would have motivated to do this because changes in the network environment might require that the multicast conditions change on a rapid basis, so it might be quicker to effect these changes if the condition information sent over a dedicated channel separate from the multicast information itself. In this way, the base station would be assured that there would always be a path available to send the new condition information.

12. Regarding claims 3 and 13, as mentioned previously, the wireless terminal needs the information concerning conditions, like spreading codes, in order to receive the multicast information. It is inherent in a CDMA system that the service is "scrambled" using a code and descrambled by the user with that code in order to read the data. See paragraph 0061.

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13. Claims 7, 8, 10, 17 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Honkasalo et al. (US 5,995,496).

14. Regarding claims 7, 10, 17, and 20, Sato et al. does not expressly disclose finding the channel quality information through acknowledgements. Honkasalo et al. discloses measuring the quality level through acknowledgment messages. See col. 7, line 67-col. 7, line 4. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use acknowledgement messages as taught in Honksalo et al. to measure channel quality in the system disclosed by Sata et al.. One would have been motivated to do this because using acknowledgment messages would not require much complexity and could be implemented easily in many current systems.

15. Regarding claims 8 and 18, neither Sato et al. nor Honksalo et al. expressly discloses measuring a percentage of acknowledgement messages to determine whether or not to transmit the multi-cast service. However, it is well-known in the art that “windows” can be used, where if the sender doesn’t receive a certain number of acknowledgments back in a certain time, the sender will not send more information because it will assume that the original data did not reach the destination properly. It would have been obvious to count the acknowledgments of test packets before sending the multicast data in Sata et al.. One would have been motivated because the base station will want to make sure the connection is working before attempting to send any data.



***Response to Arguments***

16. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLL  
Timothy Lee  
April 6, 2004

  
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